

What is claimed is:

1. A method for generating interaction events associated with a tracking environment in substantially real time using substantially real time input interaction data collected by a plurality of automatic data collection systems comprising:

5 receiving a plurality of substantially real time input interaction data streams generated at a plurality of respective automatic data collection systems;

extracting the input interaction data from the data streams according to data format and detail definitions of the respective collection systems generating the interaction data streams;

10 generating primary interaction events based on the extracted interaction data, wherein the primary interaction events have a standardized processing format;

generating secondary interaction events based on the primary interaction events; and

15 formatting the secondary interaction events for reception by at least one software application based on configuration requirements of the at least one software application.

2. The method of claim 1 further comprising:

transmitting the formatted secondary interaction events in substantially real time to the at least one software application.

3. The method of claim 1 further comprising:

20 filtering at least one of the primary and secondary interaction events to remove input interaction data according to predetermined criteria.

4. The method of claim 2 further comprising:

formatting at least one of the primary interaction events for output in accordance with the configuration requirements of the at least one application and transmitting the primary interaction events formatted for output in substantially real time to the at least one application.

5           5.       The method of claim 1, wherein at least one of the primary interaction events includes at least a location attribute, an object/person attribute and a time attribute.

6.       The method of claim 1 further comprising:

10           storing the primary interaction events and the secondary interaction events in a memory; and

            following the storing and based on the configuration requirements for the at least one application, retrieving from the memory at least one of (i) the stored primary interaction events and (ii) the secondary interaction events, and using the retrieved interaction events for generating additional secondary interaction events.

15           7.       The method of claim 1, wherein at least one of the secondary interaction events indicates co-location of at least two persons.

8.       The method of claim 1, wherein at least one of the secondary interaction events indicates co-location of at least one person with at least one object.

20           9.       The method of claim 1, wherein at least one of the secondary interaction events indicates co-location, for a predetermined time interval, of (i) at least two persons or (ii) at least one person with at least one object.

10. The method of claim 1, wherein the generating of the secondary interaction events is based on an interaction building rule corresponding to an activity of a process step performed by the at least one application.

11. The method of claim 1, wherein the secondary interaction events are  
5 formatted for transmission to at least one of a billing software application, a clinical information application, a medication distribution tracking application and a process monitoring/variance detection application and a process scheduling and resource management application.

12. The method of claim 1 further comprising:  
10 filtering the primary interaction events to remove input interaction data according to predetermined criteria, and wherein the generating secondary interaction events uses the filtered primary interaction events.

13. A system for generating interaction events associated with a tracking environment in substantially real time using substantially real time input interaction data  
15 collected by a plurality of automatic data collection systems comprising:

a plurality of listeners for interfacing with a plurality of respective automatic data collection systems, wherein the listeners in substantially real time forward substantially real time input interaction data streams provided by the respective collection systems;

a plurality of input data format converters respectively coupled to the plurality of  
20 listeners and for receiving the interaction data streams forwarded by the respective listeners;

an interaction builder coupled to the input converters and to a plurality of output data format converters;

a plurality of senders respectively coupled to the plurality output converters and for interfacing with a respective plurality of applications;

a configuration data database coupled to the input and output converters and the builder;

5 an interaction event data database coupled to the builder;

wherein each of the input converters generates primary interaction event data based on the input interaction data stream received from the associated listener and data format and detail definitions of the collection system generating the input interaction data stream, wherein the primary interaction event data has a standardized processing format, wherein the configuration database contains the configuration requirements and the data definitions;

wherein the builder generates secondary interaction events based on the primary interaction events; and

wherein the output converters format the secondary interaction events for reception by at least one of the software applications.

14. The system of claim 13, wherein the senders transmit to the respective software applications in substantially real time the formatted secondary interaction events received from the respective output converters.

15. The system of claim 13 further comprising:

20 a data reduction filter coupled to the builder, the configuration database and each of the input converters, wherein the reduction filter filters at least one of the primary and secondary interaction events to remove interaction data according to predetermined criteria.

16. The system of claim 14, wherein the builder transmits at least one of the primary interaction events received from the input converters to at least one of the output converters and wherein the output converter formats at least one of the primary interaction events for output to the application coupled to the sender associated with the output converter.

17. The system of claim 13, wherein at least one of the primary interaction events includes at least a location attribute, an object/person attribute and a time attribute.

18. The system of claim 13 further comprising an interaction event memory, wherein the builder stores the primary interaction events and the secondary interaction events in the interaction event memory, and wherein the builder, based on the configuration requirements for the at least one application, retrieves from the memory at least one of (i) the stored primary interaction events and (i) the secondary interaction events and uses the retrieved interaction events to generate additional secondary interaction events.

19. The system of claim 13, wherein at least one of the secondary interaction events indicates co-location of at least two persons.

20. The system of claim 13, wherein at least one of the secondary interaction events indicates co-location at least one person with at least one object.

21. The system of claim 13, wherein at least one of the secondary interaction events indicates co-location, for a predetermined interval, of (i) at least two persons or (ii) at least one person with at least one object.

22. The system of claim 13, wherein the secondary interaction events are generated based on an interaction building rule corresponding to an activity associated with a process step performed by the at least one application.

23. The system of claim 13, wherein the secondary interaction events are  
5 formatted for transmission to at least one of a billing software application, a clinical information application, medication distribution tracking application, a process monitoring/variance detection application and a process scheduling and resource management application.

24. The system of claim 13, wherein the data collection systems includes at  
10 least one of an radio frequency identification system, a smart card reader system, an indoor location system, a voice recognition system, a bar coding system, a biometric recognition system and a machine vision system.

25. The system of claim 13 further comprising:

a data reduction filter coupled to the builder, the configuration database and each  
15 of the input converters, wherein the reduction filter filters the primary interaction events to remove interaction data according to predetermined criteria, and wherein the builder generates secondary interaction events based on the filtered primary interaction events.